

REMARKS

Claims 1-11 are pending in this application. By this Amendment, claims 1, 3, and 8 are amended. Claims 6 and 7 are withdrawn from consideration.

I. Claim Rejections under 35 U.S.C §102

Claims 8-11 are rejected under 35 U.S.C §102(b) as being anticipated by U.S. Patent No. 5,511,591 A to Abe (hereinafter "Abe"). Specifically, the Office Action asserts that Abe teaches (Fig. 10) a droplet discharge apparatus 10 which discharges a liquid material from a discharge device and arranges the liquid material in a specified quantity on a substrate (column 2, lines 35-38), wherein a discharge device has a nozzle for discharging the liquid material and droplets, and the droplet discharge apparatus comprising: a liquid material supply system which supplies the liquid material to the nozzle; a measuring device with which measures a quantity of the liquid material arranged on the substrate (column 2, lines 35-38). Additionally, the Office Action asserts that this droplet discharge apparatus 10 can manufacture the liquid crystal display (electronic apparatus) comprising a liquid crystal layer. We traverse the rejections.

Abe does not teach, nor suggest a droplet discharge apparatus which disposes a liquid material in a specified quantity on a substrate, comprising a nozzle for discharging a liquid material in droplets; a liquid material supply system which supplies the liquid material to the nozzle; and a measuring device which measures a quantity of the liquid material disposed on the substrate, wherein a quantity of the liquid material disposed on the substrate is measured by the measuring device and the discharge of the liquid material from the nozzle is stopped when the quantity of the liquid material disposed on the substrate reaches a specified quantity.

Instead, Abe merely discloses that the liquid crystal dispenser releases liquid crystal drop by drop and controls the quantity of one drop. That is, Abe merely discloses controlling the liquid crystal dispenser 10 to control the quantity of one drop in the order of milligrams.

However, Abe does not disclose a measuring device which measures a quantity of the liquid material disposed on the substrate. Abe discloses a drop amount by does not disclose measuring a liquid material that is disposed on the substrate.

Based on the arguments presented above independent claim 8 is in condition for allowance. Additionally, dependent claims 9-11 depend either directly or indirectly from independent claim 8. Therefore, the dependent claims are also in condition for allowance. It is respectfully requested that the Examiner reconsider and withdraw the rejections.

II. Claim Rejections under 35 U.S.C. §103

Claims 1-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over Abe in view of European Patent No. 994180 A1 to Mondin et al. (hereinafter "Mondin").

Specifically, the Office Action asserts that Abe teaches (Figs. 7-10) a droplet discharge method for discharging a liquid material from a discharge device and arranging the liquid material in a specified quantity on a substrate (column 2, lines 35-38), the discharge device comprising a nozzle 10 for discharging the liquid material and droplets, and the droplet discharge method comprising the steps of: cleaning the nozzle by substitution of capillary 63 (column 6, lines 29-30); arranging at least a part of the liquid material (the first drops of the liquid material used for cleaning on the substrate). The Office Action acknowledges that Abe fails to disclose the cleaning nozzle and substrate with liquid crystal. However, the Office Action goes on to assert that Mondin teaches the liquid crystal material being used to clean for the removing of oily and greasy soil. Additionally, the Office Action asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a droplet discharge method for discharging a liquid material from a discharge device as Abe disclosed with a liquid crystal material being used to clean for the removing of oily and greasy soil as taught by Mondin. We respectfully traverse the rejections.

Neither Abe, nor Mondin, teaches, discloses or suggests cleaning the nozzle by discharging the liquid material from the nozzle; and disposing the liquid material on the substrate by discharging the liquid material from the nozzle, wherein the liquid material used in the cleaning step is disposed on the substrate, and the quantity of the liquid material disposed on the substrate and the step of cleaning and the quantity of the liquid material disposed on the substrate in the step of disposing constitute the specified quantity.

Specifically, neither Abe nor Mondin teaches nor suggests disposing the liquid material on a substrate in the cleaning step. Instead, Abe teaches the cleaning step as performed by removing a capillary unit 6 and fitting another capillary unit 6, as taught in lines 29-30, column 6. Therefore, in this cleaning step, Abe teaches that the liquid material is not disposed on the substrate. Furthermore, Mondin does not make up for the deficiencies of Abe. Specifically, Mondin is directed to an all purpose detergent that is environmentally friendly using a liquid crystal cleaning composition. The detergent of Mondin's is primarily for home use. The detergent of Mondin therefore, can not be used for the cleaning step of the present invention in which a liquid material is used for cleaning the nozzle and a part of the liquid material used for the cleaning is arranged on the substrate.

Additionally, Mondin fails to disclose disposing the same liquid material on a substrate. Additionally, Abe provides no motivation for those skilled in the art to further modify a droplet method for discharging a liquid material from a discharge device as Abe disclosed with a liquid crystal material being used to clean for removing of oily and greasy soil, as taught by Mondin. Unlike Mondin, Abe is directed to fabrication of a liquid crystal display. Therefore, the field of the application of Mondin is different from that of Abe. The Applicant respectfully contends that the combination of Abe and Mondin would not have been obvious to one of ordinary skill in the art.

Based on the arguments presented above independent claims 1 and 3 are in condition for allowance. Additionally, dependent claims 2, 4, and 5 depend either directly, or indirectly, from independent claims 1 and 3. Therefore, the dependent claims are also in condition for allowance. It is respectfully requested that the Examiner reconsider and withdraw the rejections.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-11 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Request for Continued Examination

Date: December 7, 2005

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